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Klaus Habik

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BACON & THOMAS, PLLC  
625 SLATERS LANE  
FOURTH FLOOR  
ALEXANDRIA, VA 22314-1176

EXAMINER

CORDRAY, DENNIS R

ART UNIT

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PAPER

**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

<b>Office Action Summary</b>	<b>Application No.</b> 10/544,182	<b>Applicant(s)</b> HABIK ET AL.	
	<b>Examiner</b> DENNIS CORDRAY	<b>Art Unit</b> 1791	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

### Status

- 1) ☐ Responsive to communication(s) filed on \_\_\_\_.
- 2a) ☐ This action is **FINAL**.                      2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

### Disposition of Claims

- 4) ☒ Claim(s) 1-47 is/are pending in the application.  
4a) Of the above claim(s) 27-47 is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-26 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_ are subject to restriction and/or election requirement.

### Application Papers

- 9) ☒ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 02 August 2005 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☒ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

### Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).  
a) ☒ All    b) ☐ Some \*    c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_.
  3. ☒ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

### Attachment(s)

- |   |   |
|---|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)   | 4) <input type="checkbox"/> Interview Summary (PTO-413)<br>Paper No(s)/Mail Date. ____. |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)  | 5) <input type="checkbox"/> Notice of Informal Patent Application                       |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)<br>Paper No(s)/Mail Date <u>8/2/2005</u> . | 6) <input type="checkbox"/> Other: ____.  |

**DETAILED ACTION**

***Election/Restrictions***

1. Restriction is required under 35 U.S.C. 121 and 372.

This application contains the following inventions or groups of inventions which are not so linked as to form a single general inventive concept under PCT Rule 13.1.

In accordance with 37 CFR 1.499, applicant is required, in reply to this action, to elect a single invention to which the claims must be restricted.

Group I, claim(s) 1-26, drawn to a product.

Group II, claim(s) 27-47, drawn to a method.

The inventions listed as Groups I and II do not relate to a single general inventive concept under PCT Rule 13.1 because, under PCT Rule 13.2, they lack the same or corresponding special technical features for the following reasons: Groups I and II share the common technical feature of a paper comprising a flat substrate, a lower lacquer layer applied to the substrate and an upper lacquer layer.

This technical feature is disclosed in Reinhart (4717615). Reinhart discloses a multi-layer security document comprising flat substrate (1), a lower lacquer layer (2) in contact with the substrate, and two upper decorative lacquer layers (4 and 5). The lacquer layers can be cured by drying or by heat (physically drying) (Abs; col 1, lines 8-13; Fig. 1; col 3, lines 19-31; col 3, line 66 to col 4, line 8).

Applicant is reminded that upon the cancellation of claims to a non-elected invention, the inventorship must be amended in compliance with 37 CFR 1.48(b) if one or more of the currently named inventors is no longer an inventor of at least one claim

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remaining in the application. Any amendment of inventorship must be accompanied by a request under 37 CFR 1.48(b) and by the fee required under 37 CFR 1.17(i).

2. During a telephone conversation with J. Ernest Kenney on 3/16/2009 a provisional election was made without traverse to prosecute the invention of Group I, claims 1-26. Affirmation of this election must be made by applicant in replying to this Office action. Claims 27-47 are withdrawn from further consideration by the examiner, 37 CFR 1.142(b), as being drawn to a non-elected invention.

3. The examiner has required restriction between product and process claims. Where applicant elects claims directed to the product, and the product claims are subsequently found allowable, withdrawn process claims that depend from or otherwise require all the limitations of the allowable product claim will be considered for rejoinder. All claims directed to a nonelected process invention must require all the limitations of an allowable product claim for that process invention to be rejoined.

In the event of rejoinder, the requirement for restriction between the product claims and the rejoined process claims will be withdrawn, and the rejoined process claims will be fully examined for patentability in accordance with 37 CFR 1.104. Thus, to be allowable, the rejoined claims must meet all criteria for patentability including the requirements of 35 U.S.C. 101, 102, 103 and 112. Until all claims to the elected product are found allowable, an otherwise proper restriction requirement between product claims and process claims may be maintained. Withdrawn process claims that are not

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commensurate in scope with an allowable product claim will not be rejoined. See MPEP § 821.04(b). Additionally, in order to retain the right to rejoinder in accordance with the above policy, applicant is advised that the process claims should be amended during prosecution to require the limitations of the product claims. **Failure to do so may result in a loss of the right to rejoinder.** Further, note that the prohibition against double patenting rejections of 35 U.S.C. 121 does not apply where the restriction requirement is withdrawn by the examiner before the patent issues. See MPEP § 804.01.

#### ***Oath/Declaration***

4. The oath or declaration submitted 8/2/2005 is defective. A new oath or declaration in compliance with 37 CFR 1.67(a) identifying this application by application number and filing date is required. See MPEP §§ 602.01 and 602.02. The oath or declaration is defective because the filing date of the German Foreign Priority Document 10305614.9 is incorrect. The correct date should be February 11, 2003.

#### ***Specification***

5. The abstract of the disclosure is objected to because the words "Figure 2" appearing below the last line of the first paragraph do not appear to be part of the abstract. The words should be removed. Correction is required. See MPEP § 608.01(b).

***Claim Rejections - 35 USC § 112***

The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

6. Claims 1-26 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Claim 1 recites “a flat substrate.” It is not clear if the substrate is intended to be a sheet, an object having a planar surface or if another meaning of flat is intended.

Claim 1 also recites a “physically drying lacquer layer.” The meaning of physically drying is not clear. Does the layer dry by air or by physically applying heat to evaporate a solvent? Does the layer dry by absorption of solvent into a second layer or a fabric? Does the layer dry by suctioning or pressing the solvent out?

Claim 4 recites that “the first lower lacquer layer is elastic,” but fails to recite any particular values or criteria for the elasticity thereof. Since all materials have some elasticity, the claim fails to define the metes and bounds of the desired protection.

Claim 9 recites the limitation “each second upper lacquer layer” in 1. There is insufficient antecedent basis for this limitation in the claim because Claim 1 only defines “a second upper one of said lacquer layers.”

Claim 12 recites “a predetermined smoothness, sound and/or flexural stiffness.” It is not clear what sound is predetermined. Does the paper have embedded sound producing devices? Does the paper generate sound when rubbed or flexed? Is some other meaning intended for the predetermined sound?

Claim 16 recites that “the first lower lacquer layer has a low glass transition temperature” but fails to recite any particular values or criteria to evaluate what is intended by a low glass transition temperature. The term “low” is a relative term that renders the claim indefinite. The term “low” is not defined by the claim, the specification does not provide a standard for ascertaining the requisite degree, and one of ordinary skill in the art would not be reasonably apprised of the scope of the invention.

Claims 19 and 20: A broad range or limitation together with a narrow range or limitation that falls within the broad range or limitation (in the same claim) is considered indefinite, since the resulting claim does not clearly set forth the metes and bounds of the patent protection desired. See MPEP § 2173.05(c). Note the explanation given by the Board of Patent Appeals and Interferences in *Ex parte Wu*, 10 USPQ2d 2031, 2033 (Bd. Pat. App. & Inter. 1989), as to where broad language is followed by “such as” and then narrow language. The Board stated that this can render a claim indefinite by raising a question or doubt as to whether the feature introduced by such language is (a) merely exemplary of the remainder of the claim, and therefore not required, or (b) a required feature of the claims. Note also, for example, the decisions of *Ex parte Steigewald*, 131 USPQ 74 (Bd. App. 1961); *Ex parte Hall*, 83 USPQ 38 (Bd. App. 1948); and *Ex parte Hasche*, 86 USPQ 481 (Bd. App. 1949). In the present instance, claim 19 recites the broad recitation “from 1 to 6 g/m<sup>2</sup>”, and the claim also recites “from 2 to 4 g/m<sup>2</sup>” which is the narrower statement of the range/limitation. Claim 20 also recites a broad and a narrow limitation.

Claim 23 recites the limitation "the gap" in Claim 21. There is insufficient antecedent basis for this limitation in the claim. For the purpose of this examination, it is assumed that Claim 23 is intended to depend from Claim 22.

Claim 24 recites that the protective layer is applied to the flat substrate "all over." It is not clear if the intention is to apply the layer all over one surface of the substrate, all over all surfaces and edges, or if another meaning is intended.

The remaining claims depend from and inherit the indefiniteness of Claim 1.

### ***Claim Rejections - 35 USC § 102***

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

### ***Claim Rejections - 35 USC § 103***

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

7. Claims 1, 3, 8, 9, 13, 15, 17, 21, 24 and 26 are rejected under 35 U.S.C. 102(b) as anticipated by or, in the alternative, under 35 U.S.C. 103(a) as obvious over Kaule et al (5820971).



Claims 1, 3, 8, 9 and 26: Kaule et al discloses a security paper such as a bank note, identity card, etc., comprising a flat substrate (reference #1, Fig. 1) provided at least partly with a reaction adhesive layer or lower layer (4) contacting the substrate, a thin reflective metallized layer (3) and a UV-or chemically curable layer or upper layer of reaction lacquer (2). Adhesive layer (4) is largely chemically homogeneous with layer (2) (Abs; col 4, lines 17-38, Fig. 1). The adhesive can be a lacquer that cures under a specific physical action (physically drying) (col 3, lines 1-9 and 51-60). The lower lacquer layer contacting the substrate is shown as a smooth, contiguous layer (Fig. 1) and, where present, will close the pores of the paper and prevent dirt from accumulating thereon or, at least, one of ordinary skill in the art would have found the closed pores and dirt repelling obvious. The upper lacquer layer is an irreversibly curable protective layer that resists physical and environmental (chemical) influences (col 4, lines 33-39; col 6, lines 1-3; col 6, line 58 to col 7, line 7, Fig. 8).

Claims 13 and 15: In some locations, the upper lacquer layer is in direct contact with the lower lacquer layer to form a largely inseparable compound (forms a highly resistant bond) (col 3, lines 9-18).

Claim 17: The two lacquer layers and thin reflective layer contain an embossed hologram (col 2, lines 32-37; col 4, lines 22-26). Holograms have optical properties that vary with the viewing angle. At least the top lacquer layer is transparent and colorless in order for the hologram to be viewed or, at least, making the top layer transparent and colorless would have been obvious to one of ordinary skill in the art.

Claim 21: The substrate can be bank note paper that has been printed on and the lower lacquer layer is applied directly to the substrate (col 5, lines 13-16).

Claim 24: In some embodiments, the lacquer layers are applied all over the substrate (col 7, lines 13-16).

8. Claim 2 is rejected under 35 U.S.C. 103(a) as unpatentable over Kaule et al in view of Howland et al (5928471).

The disclosure of Kaule et al is used as above. Kaule et al does not disclose cotton paper.

Howland et al teaches that cotton is the preferred fiber for bank notes (col 5, lines 34-43).

The art of Kaule et al, Howland et al and the instant invention is analogous as pertaining to security paper used for bank notes. It would have been obvious to one of ordinary skill in the art to use cotton paper as the substrate of the paper of Kaule et al in view of Howland et al as the preferred paper for bank notes.

9. Claims 4-11, 14 and 18 are rejected under 35 U.S.C. 103(a) as unpatentable over Kaule et al in view of Hasegawa et al (5141983).

The disclosure of Kaule et al is used as above. Kaule et al does not disclose the composition or elastic properties of the lacquer layers.

Hasegawa et al discloses aqueous coating compositions for paper comprising as essential components, an aqueous polyurethane resin polymerized with an acrylic

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copolymer. The compositions have elasticity, weather resistance and toughness (Abs; col 1, lines 6-19; col 2, lines 17-42). The compositions also provide resistance to chemicals (col 6, lines 53-65). In some embodiments, the polymers comprise unsaturated monomers such as styrene, thus are styrene-acrylic polyurethanes (col 5, lines 13-21). In some embodiments, the resins also comprise silane monomers, thus comprise silicones (col 5, lines 28-35). The compositions can comprise a fungicide (col 7, lines 62-66). Since the compositions are aqueous, they are physically drying.

The art of Kaule et al, Hasegawa et al and the instant invention is analogous as pertaining to coatings used to protect paper. The goal of Kaule et al is to provide holograms as security elements that cannot be removed or physically altered. It would have been obvious to one of ordinary skill in the art to use aqueous styrene-acrylic polyurethanes as the lacquer coatings in the paper of Kaule et al in view of Hasegawa et al to obtain the toughness, weatherability and chemical resistance disclosed by Hasegawa et al. The coatings are elastic. It would further have been obvious to include a fungicide as a typical coating additive.

Regarding Claim 14, Kaule et al discloses that the metallized layer can additionally be provided with a protective layer that is chemically homogeneous with layer 2 (col 5, lines 5-8). The additional protective layer lies between the lower and upper layers.

10. Claims 12, 19 and 20 are rejected under 35 U.S.C. 103(a) as unpatentable over Kaule et al in view of Gerlier et al (6715750).

The disclosure of Kaule et al is used as above. Kaule et al does not disclose adjusting the upper lacquer layer to obtain predetermined smoothness, sound and/or flexural stiffness.

Gerlier et al teaches that a problem in cut sheet dispensers such as automated teller machines is the accidental dispensing of multiple sheets. One mechanism by which the dispensers operate is by establishing a differential friction between an actuating mechanism and the first and subsequent sheets. A second mechanism involves buckling the top sheet to remove it from the stack (col 1, lines 8-28). Thus, the frictional resistance between bank notes, which is in part due to the smoothness of the sheets, and the flexural stiffness of the bank notes are important features to control.

The art of Kaule et al, Gerlier et al and the instant invention is analogous as pertaining to paper used for bank notes. It would have been obvious to one of ordinary skill in the art to control the composition of the lacquer coatings and their thickness to the claimed range to obtain a predetermined smoothness and flexibility in banknotes made from the paper of Kaule et al in view of Gerlier et al to ensure accurate dispensing in automated machines.

11. Claim 25 is rejected under 35 U.S.C. 103(a) as unpatentable over Kaule et al in view of Tooth et al (4462866).

The disclosure of Kaule et al is used as above. Kaule et al does not disclose a lacquer layer on both sides of the paper.

Tooth et al discloses a security paper that can be used to make bank notes (Abs; col 3, lines 62-64). The document contains a security element, which may be lie in a watermark, thus providing multiple security elements (col 3, lines 6-24). The paper can comprise an overlay in the form of a film that can cover the security element or can extend over the whole of one or more surfaces of the sheet. The overlay can be applied as a liquid which is physically dried and/or cured to form a film (col 3, lines 37-61). The overlay prevents the embedded elongate security element from becoming detached and, when extending over the whole sheet, provides protection for the sheet or, at least, such protection would have been obvious to one of ordinary skill in the art.

The art of Kaule et al, Tooth et al and the instant invention is analogous as pertaining to coatings used to protect paper. It would have been obvious to one of ordinary skill in the art to apply a lacquer over both surfaces of the paper of Kaule et al in view of Tooth et al to protect the entire paper.

Claims 22 and 23 are rejected under 35 U.S.C. 103(a) as unpatentable over Kaule et al in view of Suss (6059914) and further in view of Tooth et al.

The disclosure of Kaule et al is used as above. Kaule et al does not disclose a gap in the lacquer layer or an additional security element therein. Kaule et al does disclose applying a hologram by transferring it from a carrier material (col 2, lines 38-41; col 3, lines 19-29).

Suss discloses a method of transferring a hologram to a paper by producing a stamping foil having a decorative layer (i.e.-a hologram) provided on a carrier film only

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in a region-wise manner corresponding to the desired patterning of the substrate (Abs; col 2, lines 44-63). Multiple discrete hologram elements can be applied to a substrate (col 3, lines 7-11; col 7, lines 49-59, Fig. 3).

Suss does not disclose security elements between the hologram elements forming the pattern.

The disclosure of Tooth et al is used as above.

The art of Kaule et al, Suss, Tooth et al and the instant invention is analogous as pertaining to security elements used in paper. It is well known in the art (such as in the paper of Tooth et al) to incorporate multiple security elements in security papers to make forgery difficult. It would have been obvious to one of ordinary skill in the art to apply multiple discrete hologram elements (thus forming gaps between the elements and their corresponding lacquer layers) to the paper of Kaule et al in view of Suss and further in view of Tooth et al to make forgery of the paper more difficult. It would further have been obvious to incorporate the holograms in a watermark, which forms an additional security element in the gaps, to further hinder duplication of the paper.

### ***Conclusion***

Any inquiry concerning this communication or earlier communications from the examiner should be directed to DENNIS CORDRAY whose telephone number is (571)272-8244. The examiner can normally be reached on M - F, 7:30 -4:00 PM.

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If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Steven Griffin can be reached on 571-272-1189. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/Dennis Cordray/  
Examiner, Art Unit 1791

/Eric Hug/  
Primary Examiner, Art Unit 1791